DRAFT: 1/21/04

ECOSYSTEM ALTERATION
(ESA) WORKING GROUP
UMass/Boston, Healy Library – 9:30AM to 4:30 PM
January 12, 2004

MEETING SUMMARY (Updated: 2/20/04)

***ACTION ITEMS*:**

1. SBNMS will see if a statistical summary of the scoping survey results identifying the relative contribution of each stakeholder group to the ecosystem alteration issues was done.
2. Leslie Ann McGee (NEFMC) will prepare a presentation reviewing and summarizing NEFMC's investigations into habitat alteration by mobile fishing gear.
3. Tyco Telecommunications will provide the WG with calculations that roughly estimate the extent of disturbance of the sea-plows used for laying undersea cables.
4. Jud Crawford will approach the state to provide a presentation for the WG on the Nahant pipeline.
5. Dave Wiley will contact the Water Quality Working Group to investigate the degree to which some EAWG issues overlap with water quality issues and how the water quality group plans to treat them.
6. Dave Wiley will investigate the potential to find outside funding to investigate the disposal of plastic materials retrieved by fishermen at sea. Current MARPOL regulations prohibit redumping of such material at sea and most dumps will not take it without charge.
7. The group will be polled via email on a date in February when the second WG meeting will be held.

***AGREEMENTS*:**

- The WG agreed unanimously that their meetings will be recorded and will be transferred to digital media for distribution to members upon request. The audio recordings will not be posted on the SBNMS web site or provided to anyone outside of the group for any purpose.
- The WG agreed unanimously that each member would forward the name of an Alternate to the Chair (Porter Hoagland), or the Team Lead (David Wiley). The Alternate will serve in the place of the principal member in cases when the principal member cannot attend a meeting. It is the principal members responsibility to keep the Alternate up to date on the issues that are being deliberated, on the agreements that the group have reached, and on the recommendations to be made to the SAC. Alternates do not have to be from the same organization as the member, but should accurately represent the expertise and interests of the member.
- Once an agreement has been reached, or a recommendation agreed to, they cannot be changed or revisited at future meetings, unless important new information is presented.
- Bio-prospecting is added to the issues list as one of the "Emerging Issues."
- The WG agreed unanimously that pipelines should be held to a different standard than fiber-optic cables.
- The meeting time was changed to start at 8AM instead of 9:30 AM, and extended to 6PM instead of ending at 4:30 PM.
- Most presentation should be limited to 15 minutes with an additional 15 minutes for questions.
- The Scituate meeting will begin with a 15 min. case study of a pipeline installation in Massachusetts Bay. Discussion on cables and pipelines will end at 8:45 AM, and recommendations or alternatives will be provided by 9:00 AM. The agenda for the remainder of the meeting will focus on impacts of mobile fishing gear on benthic habitats.

RECOMMENDATIONS:

- It is recommended that the SBNMS educate Sanctuary users on the identity of key invasive species and encourage the reporting of sightings to NMFS, NEFMC and/or the sanctuary.
- It is recommended that the Pipeline and Cable category be separated into two issues, since it is the opinion of the WG that these uses represent different risks, require separate treatment, and need to be held to different standards.

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ECOSYSTEM ALTERATION WORKING GROUP

Working Group Attendees

NAME	WG SEAT and AFFILIATION
Porter Hoagland	Chair, WHOI Marine Policy Center
David Wiley	Team Lead, Research Coordinator, SBNMS
Bob Kenney	University of Rhode Island/Academic
Frank Mararchi	Commercial Fishing
Russell Sherman	Commercial Fishing
Phil Michaud	Commercial Fishing
Mary Beth Tooley	Commercial Fishing
Richard Ruais	Commercial Fishing
Bruce Munson	Recreational Fishing
Jud Crawford	CLF/Conservation
Bob Buchsbaum	MA Audubon/Conservation
Rachael Taylor	TNC/ Conservation
Stormy Mayo	Center for Coastal Studies/Conservation
Susan Murphy	NMFS/NMFS
Leslie Ann McGee	NEFMC/Council
Susan Snow-Cotter	MA CZM/State

Technical Advisor(s)

Richard Taylor	Not Present
Alan Michaels	Not Present
David Pierce	Not Present

Technical Presenters

Catherine Creese	Tyco Telecommunications
Steve Drew	Tyco Telecommunications
Robert Munoz	Tyco Telecommunications
Dan Meyer	Public Employees for Environmental Responsibility (PEER)

Working Group Members Not Present

Ben Cowie-Haskell	Team Lead, SBNMS
Michel J. Kaiser	WHOI/Academic
Ben Steneck	University of Maine/Academic
Les Watling	University of Maine/Academic
Chris Glass	Manomet Center for Conservation Research/ Academic
Danielle Luttenburg	Environmental Defense/ Conservation

Others Present

Just C. Moller	GIS Research Analyst, SBNMS (Rapporteur)

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WELCOME AND INTRODUCTIONS

Porter Hoagland (Chair) opened the meeting at 10:15 AM, welcomed members of the Ecosystem Alteration working group and thanked them for their support and participation in the Master Plan Review (MPR) process. He then handed the meeting over to David Wiley (SBNMS; Team Lead) who gave a presentation on the MPR process and the roles and responsibilities of the working group members.

Status of the Management Plan Review

David Wiley's (Team Leader) presentation provided the Ecosystem Alteration Working Group (EAWG) members with a summary of the Stellwagen Bank National Marine Sanctuary (SBNMS) Master Plan Review (MPR) process (see attached flow chart at the end of this document). The National Marine Sanctuary Act (NMSA) requires management plans for all sanctuaries that must be revised every five years. The management plans identify goals and objectives, and create long-term strategies for addressing Sanctuary needs. Strategies include setting priorities, management actions, research and education needs, performance measures, etc. for achieving the meaning and intent of the NMSA. Scoping meetings and public comment were used to gauge the interest and concerns of the stakeholder communities.

The Working Group (WG) is a body of technical experts and stakeholders who will deliberate on key sanctuary issues derived from scoping meetings related to ecosystem alteration, and to make recommendations to the Sanctuary Advisory Committee (SAC) concerning those issues. The SBNMS SAC consists of 21 people (members and ex-officios) representing the region's diverse interest groups. The SAC, in turn, makes recommendations to the Sanctuary Superintendent. The goal of the EAWG is the formulation of an Action Plan to address the issue of ecosystem alteration within the Sanctuary.

The responsibilities of the EAWG members include helping the Sanctuary implement its mandate of ecosystem protection and natural resource management, while allowing compatible human uses. As the only National Marine Sanctuary in New England, the Stellwagen Bank Sanctuary is a model for management and research throughout the region. The members' ultimate objective is the shaping of an Action Plan (AP) that accurately characterizes the issues and problems related to ecosystem alteration, and to identify strategies and activities to address possible solutions ranging from research and education to modified or new regulations.

- The WG members operate under the purview of the Sanctuary Advisory Council. Members were chosen from over 400 nominations representing ~190 individuals on 12 WGs. Working group members represent constituents, and in that capacity serve as conduits for an information exchange from their constituents to WG discussions. The public is invited to participate as observers, but is not permitted to speak directly to the working group. Instead they must convey their concerns through one of the WG members. Individual roles and responsibilities of the various WG representatives include:

- The *Chair*, a member of the SAC, is the WG meeting administrator and facilitator. The Chair solicits the interests and concerns of the WG, assures that all voices are heard, and guides the fairness of the process. If the Chair has an interest that has not been voiced through another member, he or she must recuse him/herself from the position as Chair before speaking to his/her particular interest. The chair will not participate in straw polling that is conducted.

- The *Team Lead* (SBNMS staff) role is to work closely with the chair to guide an equitable process and to serve as logistics support including providing background material, agenda, minutes, etc. He/she participates in the process as a stakeholder providing advice on the National Marine Sanctuary Program's (NMSP) position, views and policies. The Team Lead will not participate in straw polling that is conducted.

- The *Working Group* is made up of a diverse group of individuals chosen because of their ability to represent diverse points of view, and their knowledge of regional marine resources and management issues. As important is the discussion that occurs between members of the working group and the constituents they represent. The members will be the only voice for their constituents during the WG process.

- *Alternates* for members can be appointed. Appointment of Alternates is a decision of the WG.

- *Technical Advisors* are individuals with expertise related to the marine mammal entanglement issue. Advisors are encouraged to make recommendations and participate in discussions but may not participate in WG decisions.

Working Group will meet once a month for five to six months. Decisions will be made by mutual agreement, and members will work toward decisions as a group with the goal of achieving general agreement. If agreement cannot be reached on a particular issue or problem, the WG has the option of forwarding a suite of options and associated rationales to the SAC, but these might be less influential to the MPR process than unanimous recommendations. If the WG cannot agree on an issue and chooses to forward a suite of options to the SAC, the members supporting a particular option are responsible for providing a written rationale of their position for subsequent consideration by the SAC and/or the Sanctuary Superintendent. While the group will not take formal recorded votes, it can take straw polls to gain a sense of where members and the group stand(s) on an issue. The group may bring in a professional facilitator if it deems such assistance beneficial.

DISCUSSION OF ISSUES AND ISSUE PRIORITIZATION

The group then discussed issue prioritization and agreed on an exercise to prioritize the issues derived from the public scoping meetings and questionnaires, and to determine the sequence of issue deliberation. This resulted in the ranking order listed below with a low number indicating a high priority. The issues were then distributed over the remaining four (4) meetings where they will be debated in preparation for outlining an Action Plan.

Issue	Rank
Benthic Habitat	1
Biomass Removal	1
Pollution	2
Ocean Dumping/Marine Debris	3
Dredge Disposal	3
Emerging Issues	4
Laying of Pipeline and Cable	5
Exotic Species	6
Mariculture	7
Coastal Activities	8

The Benthic Habitat and Biomass Removal issues were accepted, by default, as high priority issues because they were heavily emphasized during the public scoping meetings and the need for Sanctuary Guidence on these issues. The issue of bio-prospecting was added as an emerging issue, and SB is to look into the issue of disposal of flotsam and debris caught by fishermen since this material cannot be disposed in landfills. Also, the group discussed the possibility of separating pipelines from cables as issues requiring different treatment.

The Biomass Removal issue was a key issue for the group and raised a number of questions:

- What types of biomass should be protected, and to what extent?
- What forage species should be protected?
- Does the group have the expertise to deliberate on and make recommendations concerning the issue?

It was recognized that the group did not have enough information to adequately discuss this issue and tabled it until a future meeting.

It was proposed that speakers be brought in at a future meeting to present a summary of published literature and current research regarding ecosystem evaluation. All members should agree to this, and an entire day should be devoted to this effort. The group agreed that presentations do not need to be long and in-depth, but that a short thorough summary will suffice. The discussion ended with no specific agreement on whether to proceed with the proposal. However, the group agreed to extend the next two meetings to focus on Benthic Habitat Disturbance and Biomass Removal in order to adequately share information and prepare an Action Plan and recommendations.

SUBMARINE CABLE: PLANNING, INSTALLATION AND RESULTS
Presentation by Catherine Creese, Steve Drew, and Bob Munoz, Tyco Telecommunications (US), Inc.

Tyco Telecommunications presented information about submarine cables, including their importance, planning, installation and maintenance. Cables carry more than 90% of all overseas communications including voice, fax, data, and internet. They offer higher capacity, security, and speed than satellites. As a vital part of the international communications infrastructure, they are provided specific rights, freedoms and obligations under national and international law.

During the desktop study phase of cable planning, the landing points, constraints, hazards, and possible routes are evaluated. Desktop studies normally include study of published data, permitting constraints, seabed and ocean characteristics, and maritime activities such as shipping and fishing, in addition to landing site visits. In areas where fisheries are significant, Tyco conducts intensive studies including interviews with fishermen. For the cable that crosses SBNMS, fishermen helped identify fishing grounds and areas of smooth seabed where cable burial was likely to be feasible and potential conflict minimal.

During the route survey phase of project planning, multibeam sonar and bottom sampling provide detailed information about the seabed. In areas with bottom fishing or anchoring, routes normally avoid seabed that is too hard or steep for cable burial. In waters shallower than 2000 m, armoring is used according to the degree of risk and likelihood of burial. Final routes are chosen to balance project needs, risks, impacts, and costs.

During a typical installation, a sea plow weighing some 20 tons is towed behind a 450-ft long cableship. The communications cable passes through the plow and out the lower rear extremity of the plowshare. The depth of burial is controlled by raising and lowering the legs of the plow. Some positive bottom tension must be held on the cable where it enters the plow. This positive tension keeps the cable touchdown point of the cable just in front of the plow to minimize the risk of the plow over running any excess cable on the seabed. The cable path through the plow adds some additional residual tension. After burial by a plow or Remotely Operated Vehicle (ROV) the cable lies in a trench that is filled by natural processes afterward. Cable burial can be hindered by factors such as changes in sediment strength and ship movement in rough weather, which can cause surges in the towing force and cable tension. Occasionally actual burial may differ from that indicated by the plow because of seabed undulations and cable tension that can pull the cable out of the trench after the plow moves on.

Tyco staff showed samples of cables and video of exposed cables in temperate and tropical climates. The outside diameter of the most heavily armored modern communications cables is about 4.5 cm. The videos showed cables on or near the seabed that harbored typically substantial growth of marine organisms. Normally, no marine maintenance is planned for such cables, which have a design life of 25 years. Repair would be necessary in case of a cable fault, but we have no records of cable faults inside National Marine Sanctuaries.

The cable landing in Lynn, MA is buried in a narrow sandy channel along the northern edge of the SBNMS. A route slightly north of the Sanctuary would have placed the cable on hard bottom at the edge of Jeffreys Ledge, where burial was not feasible. After extensive study and survey it became clear that the best route avoiding the Sanctuary passed north of Jeffreys Ledge, adding many miles of cable, and crossing some hard bottom where burial would not be feasible, but where bottom fishing occurs. The target burial depth for installation in SBNMS was 1.5 m into the sediment. Plow instruments indicated that good burial was achieved.

The information available to Tyco indicates that impact from cables is very minor but the specific degree (and type) of impact is dependant upon many factors, including weather, installation tools and methods, and the site characteristics. Current indicators do not project additional cable installation requests within NMS's. Activity associated with the cables currently installed in NMS's is limited to that which is conducted by NOAA or cable repairs.

Tyco recommends continued research and dialog in order to reach a better understanding of limitations, requirements and the importance of environmental concerns, commercial fishing, and the telecommunications infrastructure. Tyco also recommends that any new requirements should be established within the context of the laws that govern cables, sanctuaries, and maritime activities.

Several questions were asked regarding the amount of disturbance that occurs during cable-laying operations, such as, how wide the seafloor disturbance is, and whether the cable trench is filled in. Most of these questions were answered by Tyco's presentation, but the presenters agreed to forward calculations of estimates of how much of the seafloor is affected. Generally, the width of the trench is about two (2) feet, and the width of the sea-sled is ±8 to 10 feet, but these dimensions, and the amount of disturbance, varies depending on seafloor characteristics (material, hardness, slope, etc), sea state, and on the type of equipment being used.

Q. Is the cable itself is a source of pollution as it degrades over time?

A. There is no evidence to date that the breakdown of cable materials causes measurable pollution. The only possible source is the tar coating.

Q. What happens when a cable is abandoned?

A. Typically it is left in place, or used for some other purpose.

SUBMARINE CABLE: A CONSERVATION PERSPECTIVE
Presentation by Dan Meyer, Public Employees for Environmental Responsibility (PEER)

Dan Meyer, General Counsel, PEER, resented a number of case studies describing his group's efforts to document the impacts of cable-laying operations, and to determining zones of impact and criteria for cable-laying operations in order to protect sensitive marine environments.

Environmental advocates under the supervision of retired USFWS biologist and master diver Chuck Sultzman worked in Florida to complete the first comprehensive review of the environmental impact that fiber optical cables have on sensitive, near shore coral reefs. The four reports - Biological, Regulatory, Engineering and Economic - indicate that a general, unstudied, grant of permission to lay cable is unlawful for federal agencies under the jurisdictional ambit of the National Environmental Policy Act of 1969.

Public Employees for Environmental Responsibility (PEER) sponsored the studies. The PEER Biological Report indicated that unanchored or unburied cables hold the potential of damaging marine ecosystems on an ongoing basis, as the cable moves with storm currents. The PEER Regulatory Report underscored the fact that neither the FCC nor the USACE have recognized the impact of cables permitted by their offices, so if an accurate environmental assessment is completed it will only be done by an agency other than those two agencies. The PEER Engineering Report noted that avoiding direct contact with sensitive environmental resources is the only way to avoid direct, long-term impact to the resource. The PEER Economic Report offered a cost-benefit analysis of cabling activities in Florida, noting that while some businesses benefit from the activity, others suffer losses.

Given the fact that a comprehensive assessment of cable impacts on New England near shore resources has yet to be done, PEER recommends that any strategic plan for the Stellwagen Bank NMS include an environmental assessment, and if warranted, environmental impact statement, with respect to the potential damage future cabling may have on the marine resource at Stellwagen.

Concern: A number of members raised the issue of whether a company proposing a cable or pipeline through the Sanctuary should be held financial liable for their installation. There is at least one case where the public could not seek compensation from an improper installation because the company had gone bankrupt. Payment of a bond or fee as part of the permitting process would ensure that the cost of repairing or removing an installation would not be borne by the public. This raised the question of whether this would be a single up-front fee or bond, or a regular (annual) fee, or a combination of the two. Conversely, there is also the issue of the Government being held liable for not adequately protecting the resources of the Sanctuary as mandated by the NMS Act.

CASE STUDY 1: PRELIMINARY RESULTS OF FIBER OPTIC CABLE INSPECTION IN SBNMS
Presentation by David Wiley, Research Coordinator, SBNMS

DISCUSION OF FIBER OPTIC CABLE ISSUE

D. Wiley asked the group about how the Sanctuary can protect itself from cable-laying operations in cases where installations fail, e.g. when companies go bankrupt? Should a company be required to post a bond? Is there a mechanism in place? The following comments are composites of numerous other comments made during the discussion

Comment: Bonds should not be required. They are expensive and place an economic burden on the industry.
Comment: Requiring "fair market value" compensation places an unnecessary economic burden on the industry. Will the sanctuary, at a future time, require special use permits for fishing and whale watching and require users to pay fair market value for access to these products?
Comment: Industry is appropriating public space for private use and financial gain. If allowed, compensation for such use is appropriate and necessary.
Comment: Using the sanctuary provides substantial savings to the industry. Requiring a charge for such use is appropriate.
Comment: The cable industry provides an important public service (improved communication). The government (sanctuary) should take on the responsibility/risk associated with such public benefits
Comment: P.51270 of the Federal Register handout titled "Installing and Maintaining Commercial Submarine Cables in National Marine Sanctuaries – Implementation Steps" provides specific criteria for permitting cables within SBNMS. Implementation of the proposed rules appears to take care of most of the resource protection concerns expressed by some group members in that there must be "no feasible alternative," and if there isn't, then the impacts of a cable or pipeline must be evaluated "within the context of the overall environmental analysis." It also contains a fair market value component.
Comment: It is important to understand the pre-existing seafloor conditions (what will be impacted?) in order to make proper determinations or properly evaluate post-construction effects.
Comment: The Sanctuary is a good candidate for pipeline and cables because of its location adjacent to a major metropolitan area. If the intent is for the Sanctuary to be a sanctuary, a protected area, whatever regulations are adopted should clearly be effective in protecting the resources mandated by the NMS Act.
Comment: A framework should be developed to ensure that applicants for cable and/or pipeline permits know up front what the planning and implementation criteria and standards will be.
Comment: Cables are a prohibited activity. They should not occur within the NMS
Comment: Electromagnetic fields have been shown to have an effect on sharks and rays.
Comment: The Sanctuary should identify and map seabed areas and habitats that must be avoided at all costs as a prelude to any cable or pipeline operations within the Sanctuary.

The discussions identified a general tension within the group. Some members were suspicious of "creeping regulation" where agreeing to allow the sanctuary to regulate any activity would eventually lead to its regulating other, non-agreed upon activities. Some members were concerned with "creeping commercialization" where agreeing to allow a previously prohibited activity (such as fiber optic cables) would lead to increased and accelerated use of the sanctuary by commercial entities.

The WG spent most of its time discussing the issues and impacts related to fiber optic cable-laying operations, and did not have the time, or the information, to address related issues, such as, pipelines or electrical transmission cables. It was suggested that pipelines and cables should be segregated as issues requiring separate treatment and different standards. No conclusions were reached and the issues will be taken up at the next meeting.

NEXT STEPS

Tentative Meeting Schedule

The date for the next meeting would be settled via email communication between the members, and would be announced once a suitable date is decided.

Tentative Agenda Outline for Future Meetings

Meeting #2 – Action Plan and Recommendations for Benthic Habitats

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Meeting #3 – Action Plan and Recommendations for Biomass Removal
Meeting #4 – Action Plan and Recommendations for Remaining Issues
Meeting #5 – Completion of Action Plans and SAC Recommendations

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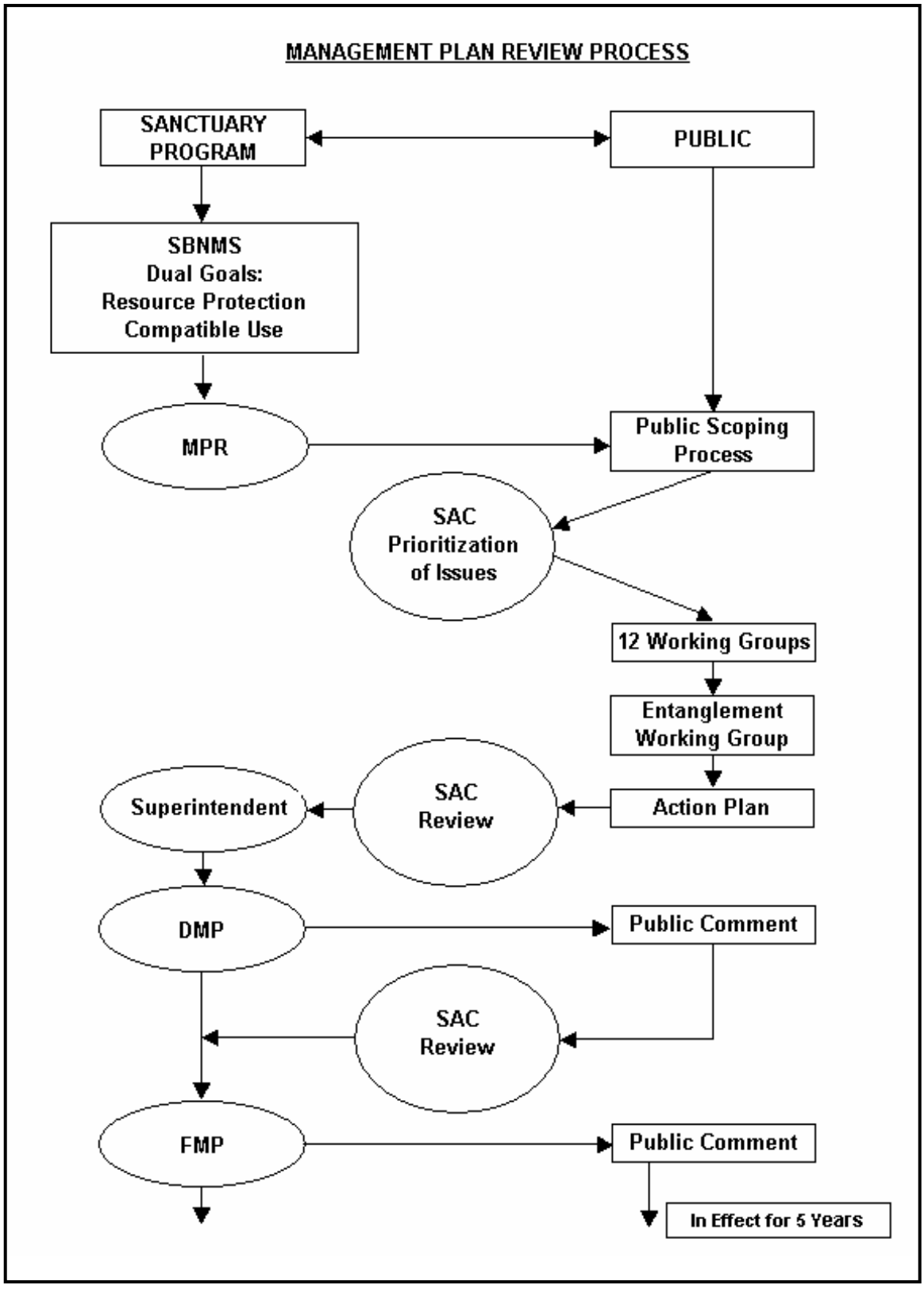
ADDENDA



DRAFT: 1/21/04

Management Plan Review

Agenda for the Ecosystem Alteration Working Group

Date: 12 January, 2004
Location: Amass/Boston